

on to the belt, and the feeder is preferably geared to the belt driving gear so that feeder and belt start and stop together.

A typical shaking feeder is shown in fig. 18, in which the rate of feed is controlled by altering the length of the stroke of the shaker and/or the angle of inclination of the pan.

The roll feeder is shown in fig. 19, and consists of a roller geared to the belt mechanism and placed immediately below the coal hopper outlet.

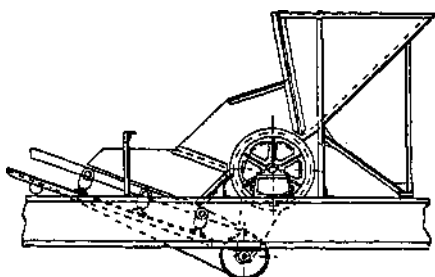


Fig. 19.—Roll Feeder

Adjustment of the coal valve varies the speed at which the coal is fed on to the belt. The coal ceases to flow immediately the roll stops.

## CHAPTER III

### Ash Handling

The percentage of ash in coal used in power plants has gradually increased during the last decade, until to-day it is quite common to find the percentage of ash amounting to 25 per cent and over. This increase in the ash content of the fuel, and the general increase in the size of power plants, makes the handling of ashes an important one in the economical design of the plant, and it will be found that the cost of ash handling represents a not inconsiderable part of the operating costs.<sup>5\*</sup>

In order to reduce these costs, therefore, it is essential to install reliable and efficient ash handling plant, and the design of such plant for handling large quantities of ashes with the minimum cost of labour and repairs has received close attention from engineers, with the result that important improvements have been made, to which reference will be made later.

It will be appreciated that ash conveying plant works under adverse conditions owing to the abrasive action of the dust, together with the heavy corrosion which is caused by the moisture and fumes which are given off when the ashes are quenched.

\* See article by Sir Richard Redmayne in the '\* Fuel Supplement' to the *Colliery Guardian*, Vol. I, No. 3, March, 1922.